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Patty Wilson

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Daniel et al.   Group Art Unit: 1623

Serial No.: 09/516,728   Examiner: Bansal, G.

Filed: March 1, 2000   Docket No.: 1242/12/2 CIP

Confirmation No.: 2723

For: MODULATION OF ENDOTHELIAL CELL SURFACE RECEPTOR ACTIVITY IN THE REGULATION OF ANGIOGENESIS

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<u>STATEMENT THAT SUBSTITUTE SEQUENCE LISTING AND COMPUTER READABLE COPY ARE THE SAME</u>

Commissioner for Patents
Washington, D.C. 20231

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In accordance with 37 C.F.R. § 1.821(f), applicants hereby state that the Substitute Sequence Listing information recorded in computer readable form is identical to the written Substitute Sequence Listing on paper.

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Respectfully submitted,

JENKINS, WILSON & TAYLOR, P.A.

Date: _Apr/ 15, 2004_   By: _____

Christopher P. Perkins
Registration No. 52,111

Customer No.: **25297**
1242/12/2 CIP   CPP/ptw

SUBSTITUTE SEQUENCE LISTING

<110> VANDERBILT UNIVERSITY
      DANIEL, THOMAS
      TAKAHASHI, TAKAMUNE
      MERNAUGH, RAYMOND

<120> MODULATION OF ENDOTHELIAL CELL SURFACE RECEPTOR ACTIVITY IN THE
      REGULATION OF ANGIOGENESIS

<130> 1242/12/2 CIP

<140> 09/516,728
<141> 2000-03-01

<150> US 09/152,160
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<302> Expression of DEP-1, a receptor-like
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<303> Proc. Natl. Acad. Sci. U.S.A.
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Pro Thr Asn Val Ile Leu Thr Trp Lys Ser Asn Asp Thr Ala Ala Ser
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Glu Tyr Lys Tyr Val Val Lys His Lys Met Glu Asn Glu Lys Thr Ile
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act gtt gtg cat caa cca tgg tgt aac atc aca ggc tta cgt cca gcg       886
Thr Val Val His Gln Pro Trp Cys Asn Ile Thr Gly Leu Arg Pro Ala
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180                 185                 190                 195

gga gat ccc aga gtc ata aaa gtc atc aca gag ccg atc cca gtt tct       982
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Asp Leu Arg Val Ala Leu Thr Gly Val Arg Lys Ala Ala Leu Ser Trp
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Gly Ser His Glu Glu Leu Thr Gln Asp Ser Arg Leu Gln Val Asn Ile
    245                 250                 255

tcg gac ctg aag cca ggg gtt caa tac aac atc aac ccg tat ctt cta      1174
Ser Asp Leu Lys Pro Gly Val Gln Tyr Asn Ile Asn Pro Tyr Leu Leu
260                 265                 270                 275

caa tca aat aag aca aag gga gac ccc ttg ggc aca gaa ggt ggc ttg      1222
Gln Ser Asn Lys Thr Lys Gly Asp Pro Leu Gly Thr Glu Gly Gly Leu
            280                 285                 290

gat gcc agc aat aca gag aga agc cgg gca ggg agc ccc acc gcc cct      1270
Asp Ala Ser Asn Thr Glu Arg Ser Arg Ala Gly Ser Pro Thr Ala Pro
            295                 300                 305

gtg cat gat gag tcc ctc gtg gga cct gtg gac cca tcc tcc ggc cag      1318
Val His Asp Glu Ser Leu Val Gly Pro Val Asp Pro Ser Ser Gly Gln
            310                 315                 320

cag tcc cga gac acg gaa gtc ctg ctt gtc ggg tta gag cct ggc acc      1366
Gln Ser Arg Asp Thr Glu Val Leu Leu Val Gly Leu Glu Pro Gly Thr
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3

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Arg Tyr Asn Ala Thr Val Tyr Ser Gln Ala Ala Asn Gly Thr Glu Gly
340             345             350             355

cag ccc cag gcc ata gag ttc agg aca aat gct att cag gtt ttt gac      1462
Gln Pro Gln Ala Ile Glu Phe Arg Thr Asn Ala Ile Gln Val Phe Asp
                360             365             370

gtc acc gct gtg aac atc agt gcc aca agc ctg acc ctg atc tgg aaa      1510
Val Thr Ala Val Asn Ile Ser Ala Thr Ser Leu Thr Leu Ile Trp Lys
                375             380             385

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Val Ser Asp Asn Glu Ser Ser Ser Asn Tyr Thr Tyr Lys Ile His Val
                390             395             400

gcg ggg gag aca gat tct tcc aat ctc aac gtc agt gag cct cgc gct      1606
Ala Gly Glu Thr Asp Ser Ser Asn Leu Asn Val Ser Glu Pro Arg Ala
        405             410             415

gtc atc ccc gga ctc cgc tcc agc acc ttc tac aac atc aca gtg tgt      1654
Val Ile Pro Gly Leu Arg Ser Ser Thr Phe Tyr Asn Ile Thr Val Cys
420             425             430             435

cct gtc cta ggt gac atc gag ggc acg ccg ggc ttc ctc caa gtg cac      1702
Pro Val Leu Gly Asp Ile Glu Gly Thr Pro Gly Phe Leu Gln Val His
                440             445             450

acc ccc cct gtt cca gtt tct gac ttc cga gtg aca gtg gtc agc acg      1750
Thr Pro Pro Val Pro Val Ser Asp Phe Arg Val Thr Val Val Ser Thr
                455             460             465

acg gag atc ggc tta gca tgg agc agc cat gat gca gaa tca ttt cag      1798
Thr Glu Ile Gly Leu Ala Trp Ser Ser His Asp Ala Glu Ser Phe Gln
        470             475             480

atg cat atc aca cag gag gga gct ggc aat tct cgg gta gaa ata acc      1846
Met His Ile Thr Gln Glu Gly Ala Gly Asn Ser Arg Val Glu Ile Thr
        485             490             495

acc aac caa agt att atc att ggt ggc ttg ttc cct gga acc aag tat      1894
Thr Asn Gln Ser Ile Ile Ile Gly Gly Leu Phe Pro Gly Thr Lys Tyr
500             505             510             515

tgc ttt gaa ata gtt cca aaa gga cca aat ggg act gaa ggg gca tct      1942
Cys Phe Glu Ile Val Pro Lys Gly Pro Asn Gly Thr Glu Gly Ala Ser
                520             525             530

cgg aca gtt tgc aat aga act gtt ccc agt gca gtg ttt gac atc cac      1990
Arg Thr Val Cys Asn Arg Thr Val Pro Ser Ala Val Phe Asp Ile His
                535             540             545

gtg gtc tac gtc acc acc acg gag atg tgg ctg gac tgg aag agc cct      2038
Val Val Tyr Val Thr Thr Thr Glu Met Trp Leu Asp Trp Lys Ser Pro
        550             555             560
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4

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gac ggt gct tcc gag tat gtc tac cat tta gtc ata gag tcc aag cat        2086
Asp Gly Ala Ser Glu Tyr Val Tyr His Leu Val Ile Glu Ser Lys His
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ggc tct aac cac aca agc acg tat gac aaa gcg att act ctc cag ggc        2134
Gly Ser Asn His Thr Ser Thr Tyr Asp Lys Ala Ile Thr Leu Gln Gly
580                 585                 590                 595

ctg att ccg ggc acc tta tat aac atc acc atc tct cca gaa gtg gac        2182
Leu Ile Pro Gly Thr Leu Tyr Asn Ile Thr Ile Ser Pro Glu Val Asp
                600                 605                 610

cac gtc tgg ggg gac ccc aac tcc act gca cag tac aca cgg ccc agc        2230
His Val Trp Gly Asp Pro Asn Ser Thr Ala Gln Tyr Thr Arg Pro Ser
                615                 620                 625

aat gtg tcc aac att gat gta agt acc aac acc aca gca gca act tta        2278
Asn Val Ser Asn Ile Asp Val Ser Thr Asn Thr Thr Ala Ala Thr Leu
        630                 635                 640

agt tgg cag aac ttt gat gac gcc tct ccc acg tac tcc tac tgc ctt        2326
Ser Trp Gln Asn Phe Asp Asp Ala Ser Pro Thr Tyr Ser Tyr Cys Leu
    645                 650                 655

ctt att gag aag gct gga aat tcc agc aac gca aca caa gta gtc acg        2374
Leu Ile Glu Lys Ala Gly Asn Ser Ser Asn Ala Thr Gln Val Val Thr
660                 665                 670                 675

gac att gga att act gac gct aca gtc act gaa tta ata cct ggc tca        2422
Asp Ile Gly Ile Thr Asp Ala Thr Val Thr Glu Leu Ile Pro Gly Ser
                680                 685                 690

tca tac aca gtg gag atc ttt gca caa gta ggg gat ggg atc aag tca        2470
Ser Tyr Thr Val Glu Ile Phe Ala Gln Val Gly Asp Gly Ile Lys Ser
                695                 700                 705

ctg gaa cct ggc cgg aag tca ttc tgt aca gat cct gcg tcc atg gcc        2518
Leu Glu Pro Gly Arg Lys Ser Phe Cys Thr Asp Pro Ala Ser Met Ala
        710                 715                 720

tcc ttc gac tgc gaa gtg gtc ccc aaa gag cca gcc ctg gtt ctc aaa        2566
Ser Phe Asp Cys Glu Val Val Pro Lys Glu Pro Ala Leu Val Leu Lys
    725                 730                 735

tgg acc tgc cct cct ggc gcc aat gca ggc ttt gag ctg gag gtc agc        2614
Trp Thr Cys Pro Pro Gly Ala Asn Ala Gly Phe Glu Leu Glu Val Ser
740                 745                 750                 755

agt gga gcc tgg aac aat gcg acc cac ctg gag agc tgc tcc tct gag        2662
Ser Gly Ala Trp Asn Asn Ala Thr His Leu Glu Ser Cys Ser Ser Glu
                760                 765                 770

aat ggc act gag tat aga acg gaa gtc acg tat ttg aat ttt tct acc        2710
Asn Gly Thr Glu Tyr Arg Thr Glu Val Thr Tyr Leu Asn Phe Ser Thr
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5

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tcg tac aac atc agc atc acc act gtg tcc tgt gga aag atg gca gcc       2758
Ser Tyr Asn Ile Ser Ile Thr Thr Val Ser Cys Gly Lys Met Ala Ala
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ccc acc cgg aac acc tgc act act ggc atc aca gat ccc cct cct cca       2806
Pro Thr Arg Asn Thr Cys Thr Thr Gly Ile Thr Asp Pro Pro Pro Pro
    805             810             815

gat gga tcc cct aat att aca tct gtc agt cac aat tca gta aag gtc       2854
Asp Gly Ser Pro Asn Ile Thr Ser Val Ser His Asn Ser Val Lys Val
820             825             830             835

aag ttc agt gga ttt gaa gcc agc cac gga ccc atc aaa gcc tat gct       2902
Lys Phe Ser Gly Phe Glu Ala Ser His Gly Pro Ile Lys Ala Tyr Ala
                840             845             850

gtc att ctc acc acc ggg gaa gct ggt cac cct tct gca gat gtc ctg       2950
Val Ile Leu Thr Thr Gly Glu Ala Gly His Pro Ser Ala Asp Val Leu
            855             860             865

aaa tac acg tat gac gat ttc aaa aag gga gcc tca gat act tat gtg       2998
Lys Tyr Thr Tyr Asp Asp Phe Lys Lys Gly Ala Ser Asp Thr Tyr Val
            870             875             880

aca tac ctc ata aga aca gaa gaa aag gga cgt tct cag agc ttg tct       3046
Thr Tyr Leu Ile Arg Thr Glu Glu Lys Gly Arg Ser Gln Ser Leu Ser
    885             890             895

gaa gtt ttg aaa tat gaa att gac gtt ggg aat gag tca acc aca ctt       3094
Glu Val Leu Lys Tyr Glu Ile Asp Val Gly Asn Glu Ser Thr Thr Leu
900             905             910             915

ggt tat tac aat ggg aag ctg gaa cct ctg ggc tcc tac cgg gct tgt       3142
Gly Tyr Tyr Asn Gly Lys Leu Glu Pro Leu Gly Ser Tyr Arg Ala Cys
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gtg gct ggc ttc acc aac att acc ttc cac cct caa aac aag ggg ctc       3190
Val Ala Gly Phe Thr Asn Ile Thr Phe His Pro Gln Asn Lys Gly Leu
            935             940             945

att gat ggg gct gag agc tat gtg tcc ttc agt cgc tac tca gat gct       3238
Ile Asp Gly Ala Glu Ser Tyr Val Ser Phe Ser Arg Tyr Ser Asp Ala
        950             955             960

gtt tcc ttg ccc cag gat cca ggt gtc atc tgt gga gcg gtt ttt ggc       3286
Val Ser Leu Pro Gln Asp Pro Gly Val Ile Cys Gly Ala Val Phe Gly
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tgt atc ttt ggt gcc ctg gtt att gtg act gtg gga ggc ttc atc ttc       3334
Cys Ile Phe Gly Ala Leu Val Ile Val Thr Val Gly Gly Phe Ile Phe
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Phe Glu Ala Tyr Phe  Lys Lys Gln Gln Ala  Asp Ser Asn Cys Gly
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ttc gca gag gaa tac  gaa gat ctg aag ctt  gtt gga att agt caa        3514
Phe Ala Glu Glu Tyr  Glu Asp Leu Lys Leu  Val Gly Ile Ser Gln
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cct aaa tat gca gca  gaa ctg gct gag aat  aga gga aag aat cgc        3559
Pro Lys Tyr Ala Ala  Glu Leu Ala Glu Asn  Arg Gly Lys Asn Arg
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tat aat aat gtt ctg  ccc tat gat att tcc  cgt gtc aaa ctt tcg        3604
Tyr Asn Asn Val Leu  Pro Tyr Asp Ile Ser  Arg Val Lys Leu Ser
            1075              1080                 1085

gtc cag acc cat tca  acg gat gac tac atc  aat gcc aac tac atg        3649
Val Gln Thr His Ser  Thr Asp Asp Tyr Ile  Asn Ala Asn Tyr Met
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cct ggc tac cac tcc  aag aaa gat ttt att  gcc aca caa gga cct        3694
Pro Gly Tyr His Ser  Lys Lys Asp Phe Ile  Ala Thr Gln Gly Pro
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tta ccg aac act ttg  aaa gat ttt tgg cgt  atg gtt tgg gag aaa        3739
Leu Pro Asn Thr Leu  Lys Asp Phe Trp Arg  Met Val Trp Glu Lys
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aat gta tat gcc atc  att atg ttg act aaa  tgt gtt gaa cag gga        3784
Asn Val Tyr Ala Ile  Ile Met Leu Thr Lys  Cys Val Glu Gln Gly
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aga acc aaa tgt gag  gag tat tgg ccc tcc  aag cag gct cag gac        3829
Arg Thr Lys Cys Glu  Glu Tyr Trp Pro Ser  Lys Gln Ala Gln Asp
            1150              1155                 1160

tat gga gac ata act  gtg gca atg aca tca  gaa att gtt ctt ccg        3874
Tyr Gly Asp Ile Thr  Val Ala Met Thr Ser  Glu Ile Val Leu Pro
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gaa tgg acc atc aga  gat ttc aca gtg aaa  aat atc cag aca agt        3919
Glu Trp Thr Ile Arg  Asp Phe Thr Val Lys  Asn Ile Gln Thr Ser
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Glu Ser His Pro Leu  Arg Gln Phe His Phe  Thr Ser Trp Pro Asp
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cac ggt gtt ccc gac  acc act gac ctg ctc  atc aac ttc cgg tac        4009
His Gly Val Pro Asp  Thr Thr Asp Leu Leu  Ile Asn Phe Arg Tyr
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7

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ctc gtt cgt gac tac  atg aag cag agt cct  ccc gaa tcg ccg att              4054
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ctg gtg cat tgc agt  gct ggg gtc gga agg  acg ggc act ttc att              4099
Leu Val His Cys Ser  Ala Gly Val Gly Arg  Thr Gly Thr Phe Ile
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gcc att gat cgt ctc  atc tac cag ata gag  aat gag aac acc gtg              4144
Ala Ile Asp Arg Leu  Ile Tyr Gln Ile Glu  Asn Glu Asn Thr Val
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gat gtg tat ggg att  gtg tat gac ctt cga  atg cat agg cct tta              4189
Asp Val Tyr Gly Ile  Val Tyr Asp Leu Arg  Met His Arg Pro Leu
            1270              1275                     1280

atg gtg cag aca gag  gac cag tat gtt ttc  ctc aat cag tgt gtt              4234
Met Val Gln Thr Glu  Asp Gln Tyr Val Phe  Leu Asn Gln Cys Val
            1285              1290                     1295

ttg gat att gtc aga  tcc cag aaa gac tca  aaa gta gat ctt atc              4279
Leu Asp Ile Val Arg  Ser Gln Lys Asp Ser  Lys Val Asp Leu Ile
            1300              1305                     1310

tac cag aac aca act  gca atg aca atc tat  gaa aac ctt gcg ccc              4324
Tyr Gln Asn Thr Thr  Ala Met Thr Ile Tyr  Glu Asn Leu Ala Pro
            1315              1320                     1325

gtg acc aca ttt gga  aag acc aat ggt tac  atc gcc taa ttccaaagga          4373
Val Thr Thr Phe Gly  Lys Thr Asn Gly Tyr  Ile Ala
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cgaatgggtt ttctatttga acatgtgcct tttctgaatt atgcttccac aggcaaaact          4913

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Ile Leu Cys Ala Gly Gly Thr Pro Ser Pro Ile Pro Asp Pro Ser Val
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Ala Thr Val Ala Thr Gly Glu Asn Gly Ile Thr Gln Ile Ser Ser Thr
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Ala Glu Ser Phe His Lys Gln Asn Gly Thr Gly Thr Pro Gln Val Glu
65   70   75   80

Thr Asn Thr Ser Glu Asp Gly Glu Ser Ser Gly Ala Asn Asp Ser Leu
                85   90   95

Arg Thr Pro Glu Gln Gly Ser Asn Gly Thr Asp Gly Ala Ser Gln Lys
            100   105   110

Thr Pro Ser Ser Thr Gly Pro Ser Pro Val Phe Asp Ile Lys Ala Val
        115   120   125

Ser Ile Ser Pro Thr Asn Val Ile Leu Thr Trp Lys Ser Asn Asp Thr
    130   135   140

Ala Ala Ser Glu Tyr Lys Tyr Val Val Lys His Lys Met Glu Asn Glu
145   150   155   160

Lys Thr Ile Thr Val Val His Gln Pro Trp Cys Asn Ile Thr Gly Leu
                165   170   175

Arg Pro Ala Thr Ser Tyr Val Phe Ser Ile Thr Pro Gly Ile Gly Asn
            180   185   190

Glu Thr Trp Gly Asp Pro Arg Val Ile Lys Val Ile Thr Glu Pro Ile
            195   200   205

9

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Pro Val Ser Asp Leu Arg Val Ala Leu Thr Gly Val Arg Lys Ala Ala
    210             215             220

Leu Ser Trp Ser Asn Gly Asn Gly Thr Ala Ser Cys Arg Val Leu Leu
225             230             235             240

Glu Ser Ile Gly Ser His Glu Glu Leu Thr Gln Asp Ser Arg Leu Gln
            245             250             255

Val Asn Ile Ser Asp Leu Lys Pro Gly Val Gln Tyr Asn Ile Asn Pro
            260             265             270

Tyr Leu Leu Gln Ser Asn Lys Thr Lys Gly Asp Pro Leu Gly Thr Glu
        275             280             285

Gly Gly Leu Asp Ala Ser Asn Thr Glu Arg Ser Arg Ala Gly Ser Pro
    290             295             300

Thr Ala Pro Val His Asp Glu Ser Leu Val Gly Pro Val Asp Pro Ser
305             310             315             320

Ser Gly Gln Gln Ser Arg Asp Thr Glu Val Leu Leu Val Gly Leu Glu
            325             330             335

Pro Gly Thr Arg Tyr Asn Ala Thr Val Tyr Ser Gln Ala Ala Asn Gly
        340             345             350

Thr Glu Gly Gln Pro Gln Ala Ile Glu Phe Arg Thr Asn Ala Ile Gln
    355             360             365

Val Phe Asp Val Thr Ala Val Asn Ile Ser Ala Thr Ser Leu Thr Leu
    370             375             380

Ile Trp Lys Val Ser Asp Asn Glu Ser Ser Ser Asn Tyr Thr Tyr Lys
385             390             395             400

Ile His Val Ala Gly Glu Thr Asp Ser Ser Asn Leu Asn Val Ser Glu
            405             410             415

Pro Arg Ala Val Ile Pro Gly Leu Arg Ser Ser Thr Phe Tyr Asn Ile
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10

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Thr Val Cys Pro Val Leu Gly Asp Ile Glu Gly Thr Pro Gly Phe Leu
        435                 440             445

Gln Val His Thr Pro Pro Val Pro Val Ser Asp Phe Arg Val Thr Val
    450                 455             460

Val Ser Thr Thr Glu Ile Gly Leu Ala Trp Ser Ser His Asp Ala Glu
465                 470             475                 480

Ser Phe Gln Met His Ile Thr Gln Glu Gly Ala Gly Asn Ser Arg Val
                485                 490             495

Glu Ile Thr Thr Asn Gln Ser Ile Ile Ile Gly Gly Leu Phe Pro Gly
            500                 505             510

Thr Lys Tyr Cys Phe Glu Ile Val Pro Lys Gly Pro Asn Gly Thr Glu
        515                 520             525

Gly Ala Ser Arg Thr Val Cys Asn Arg Thr Val Pro Ser Ala Val Phe
    530                 535             540

Asp Ile His Val Val Tyr Val Thr Thr Thr Glu Met Trp Leu Asp Trp
545                 550             555                 560

Lys Ser Pro Asp Gly Ala Ser Glu Tyr Val Tyr His Leu Val Ile Glu
                565                 570             575

Ser Lys His Gly Ser Asn His Thr Ser Thr Tyr Asp Lys Ala Ile Thr
            580                 585             590

Leu Gln Gly Leu Ile Pro Gly Thr Leu Tyr Asn Ile Thr Ile Ser Pro
        595                 600             605

Glu Val Asp His Val Trp Gly Asp Pro Asn Ser Thr Ala Gln Tyr Thr
        610                 615             620

Arg Pro Ser Asn Val Ser Asn Ile Asp Val Ser Thr Asn Thr Thr Ala
625                 630             635                 640

Ala Thr Leu Ser Trp Gln Asn Phe Asp Asp Ala Ser Pro Thr Tyr Ser
            645                 650             655
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Tyr Cys Leu Leu Ile Glu Lys Ala Gly Asn Ser Ser Asn Ala Thr Gln
        660             665             670

Val Val Thr Asp Ile Gly Ile Thr Asp Ala Thr Val Thr Glu Leu Ile
        675             680             685

Pro Gly Ser Ser Tyr Thr Val Glu Ile Phe Ala Gln Val Gly Asp Gly
    690             695             700

Ile Lys Ser Leu Glu Pro Gly Arg Lys Ser Phe Cys Thr Asp Pro Ala
705             710             715             720

Ser Met Ala Ser Phe Asp Cys Glu Val Val Pro Lys Glu Pro Ala Leu
            725             730             735

Val Leu Lys Trp Thr Cys Pro Pro Gly Ala Asn Ala Gly Phe Glu Leu
        740             745             750

Glu Val Ser Ser Gly Ala Trp Asn Asn Ala Thr His Leu Glu Ser Cys
        755             760             765

Ser Ser Glu Asn Gly Thr Glu Tyr Arg Thr Glu Val Thr Tyr Leu Asn
    770             775             780

Phe Ser Thr Ser Tyr Asn Ile Ser Ile Thr Thr Val Ser Cys Gly Lys
785             790             795             800

Met Ala Ala Pro Thr Arg Asn Thr Cys Thr Thr Gly Ile Thr Asp Pro
            805             810             815

Pro Pro Pro Asp Gly Ser Pro Asn Ile Thr Ser Val Ser His Asn Ser
            820             825             830

Val Lys Val Lys Phe Ser Gly Phe Glu Ala Ser His Gly Pro Ile Lys
        835             840             845

Ala Tyr Ala Val Ile Leu Thr Thr Gly Glu Ala Gly His Pro Ser Ala
    850             855             860

Asp Val Leu Lys Tyr Thr Tyr Asp Asp Phe Lys Lys Gly Ala Ser Asp
865             870             875             880
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Thr Tyr Val Thr Tyr Leu Ile Arg Thr Glu Glu Lys Gly Arg Ser Gln
            885             890             895

Ser Leu Ser Glu Val Leu Lys Tyr Glu Ile Asp Val Gly Asn Glu Ser
            900             905             910

Thr Thr Leu Gly Tyr Tyr Asn Gly Lys Leu Glu Pro Leu Gly Ser Tyr
            915             920             925

Arg Ala Cys Val Ala Gly Phe Thr Asn Ile Thr Phe His Pro Gln Asn
    930             935             940

Lys Gly Leu Ile Asp Gly Ala Glu Ser Tyr Val Ser Phe Ser Arg Tyr
945             950             955             960

Ser Asp Ala Val Ser Leu Pro Gln Asp Pro Gly Val Ile Cys Gly Ala
            965             970             975

Val Phe Gly Cys Ile Phe Gly Ala Leu Val Ile Val Thr Val Gly Gly
            980             985             990

Phe Ile Phe Trp Arg Lys Lys Arg  Lys Asp Ala Lys Asn  Asn Glu Val
            995             1000            1005

Ser Phe  Ser Gln Ile Lys Pro  Lys Lys Ser Lys Leu  Ile Arg Val
    1010            1015            1020

Glu Asn  Phe Glu Ala Tyr Phe  Lys Lys Gln Gln Ala  Asp Ser Asn
    1025            1030            1035

Cys Gly  Phe Ala Glu Glu Tyr  Glu Asp Leu Lys Leu  Val Gly Ile
    1040            1045            1050

Ser Gln  Pro Lys Tyr Ala Ala  Glu Leu Ala Glu Asn  Arg Gly Lys
    1055            1060            1065

Asn Arg  Tyr Asn Asn Val Leu  Pro Tyr Asp Ile Ser  Arg Val Lys
    1070            1075            1080

Leu Ser  Val Gln Thr His Ser  Thr Asp Asp Tyr Ile  Asn Ala Asn
    1085            1090            1095
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Tyr Met  Pro Gly Tyr His Ser  Lys Lys Asp Phe Ile  Ala Thr Gln
    1100             1105             1110

Gly Pro  Leu Pro Asn Thr Leu  Lys Asp Phe Trp Arg  Met Val Trp
    1115             1120             1125

Glu Lys  Asn Val Tyr Ala Ile  Ile Met Leu Thr Lys  Cys Val Glu
    1130             1135             1140

Gln Gly  Arg Thr Lys Cys Glu  Glu Tyr Trp Pro Ser  Lys Gln Ala
    1145             1150             1155

Gln Asp  Tyr Gly Asp Ile Thr  Val Ala Met Thr Ser  Glu Ile Val
    1160             1165             1170

Leu Pro  Glu Trp Thr Ile Arg  Asp Phe Thr Val Lys  Asn Ile Gln
    1175             1180             1185

Thr Ser  Glu Ser His Pro Leu  Arg Gln Phe His Phe  Thr Ser Trp
    1190             1195             1200

Pro Asp  His Gly Val Pro Asp  Thr Thr Asp Leu Leu  Ile Asn Phe
    1205             1210             1215

Arg Tyr  Leu Val Arg Asp Tyr  Met Lys Gln Ser Pro  Pro Glu Ser
    1220             1225             1230

Pro Ile  Leu Val His Cys Ser  Ala Gly Val Gly Arg  Thr Gly Thr
    1235             1240             1245

Phe Ile  Ala Ile Asp Arg Leu  Ile Tyr Gln Ile Glu  Asn Glu Asn
    1250             1255             1260

Thr Val  Asp Val Tyr Gly Ile  Val Tyr Asp Leu Arg  Met His Arg
    1265             1270             1275

Pro Leu  Met Val Gln Thr Glu  Asp Gln Tyr Val Phe  Leu Asn Gln
    1280             1285             1290

Cys Val  Leu Asp Ile Val Arg  Ser Gln Lys Asp Ser  Lys Val Asp
    1295             1300             1305
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Leu Ile  Tyr Gln Asn Thr Thr  Ala Met Thr Ile Tyr  Glu Asn Leu
    1310                 1315                1320

Ala Pro  Val Thr Thr Phe Gly  Lys Thr Asn Gly Tyr  Ile Ala
    1325                 1330                1335
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